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### REMARKS

Entry of the foregoing amendment to the claims is respectfully requested under 35 CFR 1.111. It is fairly believed that the present amendment complies with the requirements of 37 CFR 1.121 generally, and does not involve any new matter in accordance with 37 CFR 1.121(f) in particular.

Claim 3 is cancelled.

Claims 1, 6, 9 and 13 are currently amended.

Claims 2, 4, 5, 7, 8, 10-12 are original.

Claims 1, 3-13 are in the application.

At item 4 of the Office action, the Examiner stands claims 1-5, 7, 9-11 as rejected under 35 U.S.C. 102 (b) which is quoted at item 3 of his Office action, as being anticipated by 10/26/03-10/30/03 TAPPI Fall Technical Conference: Engineering, Pulping & PCE& I Conference CD Paper: Chip Properties Analysis for Predicting Bleaching Agents Requirements for TMP Pulps by LAPERRIERE et al., herein after LAPERRIERE.

At item 7 of the Office action, the Examiner stands claims 6, 8, 12 and 13 rejected under 35 U.S.C. 103 (a) which is quoted at item 5 of his Office action, as being unpatentable over LAPERRIERE in view of U.S. 2003/0149493 BLEVINS et al., hereinafter BLEVINS as evidenced by *Quality Prediction by Neural Network for Pulp and Paper Processes* by KIM et al., herein after KIM.

At item 8 of the Office action, the Examiner stands claims 1-5, 7, 9-11 rejected under 35 U.S.C. 103 (a) as being unpatentable over *Integrated Intelligent Control System for Peroxide Bleaching Processes* by XIA et al., herein after XIA, in view of *Economizing the Bleaching Agent Consumption by Controlling Wood Chip Brightness* by DING et al., herein after DING.

At item 9 of the Office action, the Examiner stands claims 6-8, 12 and 13 rejected under 35 U.S.C. 103 (a) as being unpatentable over XIA in view of DING, and further in view of BLEVINS as evidenced by KIM.

As to the Examiner's rejection of claims 1-5, 7, 9-11 as being anticipated by LAPERRIERE, reconsideration is respectfully requested by the Applicants in view of a declaration of Luc Lapernière as a co-author of that reference, who is also one of the co-inventors named in the present application, which declaration being submitted herewith.

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In support of his rejection, the Examiner refers to information available from the TAPPI's Web site, according to which the TAPPI Fall Technical Conference: Engineering, Pulping & PCE&I was held from October 26, 2003 to October 30, 2003, assuming that the subject matter of LAPERRIERE was made available to the public on the first day of that conference. In fact, as evidenced by LUC LAPERRIERE's declaration, conference session no. 45 to which the subject matter of LAPERRIERE was directed, was actually held on October 28, 2003, and no specific information regarding the subject matter of LAPERRIERE was publicly disclosed prior to that date. The Applicants therefore respectfully submit that the subject matter of claims 1-5, 7, 9-11 was not described in a printed publication more than one year prior to effective application date of October 28, 2004, which claims therefore comply with the requirements of 35 U.S.C. 102 (b).

Reconsideration of the Examiner's rejection under 35 U.S.C. 103 (a) of claims 1-5, 7, 9-11 is respectfully requested in view of the presently submitted amendment to claim 1.

Claim 1 is amended by incorporating the subject matter formally recited in claim 2, the latter being cancelled. Claim 1 as amended now specifies that the set of wood chip properties that are estimated at step i) includes reflectance-related properties and wood chip size. In his Office action, in support of his rejection of claim 2, the Examiner refers to XIA as disclosing chip quality [page 594]. In XIA, chip quality is presented as one of several factors affecting many pulp quality parameters including pulp brightness. While generally mentioning that chip quality is a pulp quality affecting factor, XIA does not refer to any particular chip property, and therefore does not teach that wood chip size is qualified as a pulp quality affecting factor. Although as rightly noted by the Examiner, wood chip size is a chip quality feature that is important in refining, as stated by DING et al. in "wood chip physical quality definition and measurement" IMPC proceeding, June 2-5, Québec, Canada, 367-373 (2003), which reference is cited in the text of the present application on page 8 lines 19-21, many other wood chip properties may affect refining performance, namely wood chip species, moisture content, bulk and basic density, freshness, bark, knot and rot content, impurity content, etc. ( see INTRODUCTION page 367) . Neither XIA nor DING et al. teach that an estimation of reflectance-related properties and wood chip size could be used in a method for estimating an optimal dosage of bleaching agent to be used in a process for producing pulp of a required brightness value from wood chips as now defined in claim 1.

According to the Examiner's view, "large chips will tend to refine poorly and as such will require more bleaching". Assuming that such inference could have been proposed by the person skilled in the art, the present application contains objective evidence of an unexpected result contrary to that inference, clearly indicating the non-obviousness character of the claimed method. Examiner's attention is directed to the graph of Figure 1 included in

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the application as filed, showing relative importance index of independent variables according to PLS analysis, as discussed at page 1 lines 17-24. Although the concentrations of bleaching agents (NAOH, PEROA) have predictably been found to have most impact on the dependant variables including pulp brightness, chips size (CO\_moy) has been surprisingly found to have a contribution to bleach pulp properties response, ahead of H, L and S (Reflectance-related properties) and surface moisture. Furthermore it can be seen from the data of table 5 as discussed at page 12 lines 26-27 continuing on page 13 lines 1-4, that a change in chip size over its experimental span given at Table 4 (16.49-21.39) will give a positive change in brightness of 7.9, with an optimal (maximum) brightness value obtained at the maximum value of chip size as mentioned at page 12, lines 9-21 of the description in view of Table 4. In contrary to the Examiner's view, according to the invention, large chips would favour brightness and thus would require less bleaching. Such unexpected result would certainly not appear obvious to the person skill in the art prior to the invention. Accordingly, amended claim 1 as well as dependent claim 3-5, and 7 to which they relate, are now fairly believed by the Applicants to be in full compliance with the requirements of 35 U.S.C. 103 (a).

Claim 9 is currently amended by the Applicants in a same way as done for claim 1, by specifying that the set of wood chip properties also includes wood chip size. In view of the foregoing arguments presented with respect to amended claim 1, the Applicants fairly believe that apparatus claim 9 as well as claim 11 from which it depends are in full compliance with the requirements of 35 U.S.C. 103 (a).

As to dependent claims 6, 8, 12-13, since they refer either to allowable independent method claim 1 or apparatus claim 9 as presently amended, they are also believed to be allowable.

To better define the invention to which is directed claim 6, the latter is currently amended by specifying that the set of wood chips properties data are filtered and delayed according to an attenuation of said estimated wood chip properties and a time delay induced by said at least one processing step, as previously recited in claim 5 to which claim 6 refers. An essentially similar amendment is currently made to claim 13 for the same purpose.

Considering the foregoing amendments, the Applicants respectively submit that claims 1-2, 4-13 are now in condition for allowance.

As to the specification, the Summary of Invention has been amended to reflect claims 1, 5, 8 and 9 as submitted. Furthermore, the bibliographic information concerning the Laperrière's reference identified on page 10, line 25 and 26 has been completed. A simple search on the Internet using the keywords "Laperrière" and "Modeling and simulation of pulp and paper quality" as found in the specification as filed, gives direct access to the complete

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bibliographic information (<http://cat.inist.fr/?aModele=afficheN&cpsid=1138718>). Finally, a missing period --, -- has been added on page 11, line 14.

A favourable consideration for the allowance of all claims contained in the present application is respectfully requested.

Respectfully submitted,

Mokhtar Benaoudia et al.



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PATENT TRADEMARK OFFICE

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Encl.: Affidavit of Luc Laperrière submitted under 37 CFR 1.132 (submitted on September 30, 2008);  
TAPPI email message of September 17, 2008 (submitted on September 30, 2008);  
Information request letter of August 8, 2008 (submitted on September 30, 2008).

## CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being transmitted by facsimile to the  
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